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A report containing general information on the following electronic and industrial departments of the Warsaw Institute for Nuclear Research, the Swierk nuclear research center, the Krakow center, and Polish electronics research in general.

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The Electronics Department of the Warsaw Nuclear Research Center

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1. The electronic department is a branch of the activity of the Nuclear Research Center of Warsaw. It is housed in temporary buildings which are located along the Vistula River about four or five kilometers from Warsaw in the opposite direction from Swierk (N , E). The director of the electronics department is Engineer J. Kosaski. At the present time this department is a part of the nuclear engineering section, but in the near future it will be transferred to the nuclear physics section. When this transfer is made the electronics department will be moved to Swierk.

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2. The electronics department has a research laboratory for the study of basic electronics and impulsive electronics 50X1-HUM It is presently experimenting with and constructing Geiger counters for geological, medical and military use. It is also experimenting with and building BF_3 counters for neutrons, magnetic flux counters and automation instruments for nuclear plates for magnetic spectrometers. These instruments are constructed with the collaboration of the Soviet center at Dubna which takes care of the optical phase of the work. The electronics department of Warsaw also works closely with the electronic center of the Institute of Krakow.

3. Multi-channel analyzers are also being produced by the electronics department.

The Industrial Department of the Warsaw Nuclear Research Center

4. The industrial department is located in the Seismos Building situated in the downtown section of Warsaw. This department employs about 30 persons who work on transforming the prototypes developed by the electronic research laboratories of Warsaw and Krakow into instruments for industrial use. It is high-level office for the planning of equipment for construction for the electronics industry. 50X1-HUM

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The Swierk Electronic Center

5. This center is located about 40 kilometers southeast of Warsaw and is the most important Polish nuclear research center. This center has a Soviet research reactor of the H_2O type with core of about 20 elements containing enriched uranium. This reactor has nine channels. Plans for the construction of a reactor of zero power are now under study at the Swierk Center. This reactor will serve as a model for the construction of a 20 megawatt reactor. Both of the latter two reactors will be used for research purposes. 50X1-HUM

6. A ten mega-electrovolt linear accelerator for protons is also under construction. Construction of a Van de Graf accelerator was begun in 1955. At first this accelerator gave only negative results, but it has now begun to function and to permit the study of accessory problems. Two neutron selectors have also been recently constructed for the research reactor at Swierk. One of these selectors is for slow neutrons of from one to 100 electrovolts, and the other is for rapid neutrons of from 25 to 10,000 electrovolts.

The Krakow Center

7. This center is under the direction of Professor A. Niedwodniczanski, and it employs about 300 persons, including both workmen and technicians. Although smaller than the Warsaw Center it appears to be better organized. The propelling force behind this center is Niedwodniczanski, who has succeeded in establishing an autonomous status for the Krakow Center vis-a-vis the principal center in Warsaw.

8. Most of the research being conducted at the Krakow Center is directed toward low energy nuclear reactions, nuclear spectroscopy and nuclear magnetic resonance. At the present time there are two cyclotrons in operation at the center. One of these cyclotrons is one to one and a half mega-electrovolts and was built in Poland; the other is of Soviet construction and is 10/20 mega-electrovolts. The Soviet cyclotron is very large and its equipment is very complete.

9. The Krakow Center has the right to make use of two experimental channels of the reactor at the Swierk Center for programs that are not connected with nuclear engineering, but which have to do with experimental and solid physics. At the present time the Krakow Center is using the Swierk Center's reactor for experiments for a flight time twice of flight spectrograph and a crystal spectrograph for neutrons for the study of the non-elastic diffusion of neutrons. This is a typical problem of solid physics 50X1-HUM 50X1-HUM in the study of the phonon of solids. 50X1-HUM

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10. There is no nuclear reactor at Krakow, but there are plans to install one in the future. This reactor will be built at the Swierk Center. There is, however, some opposition to this project on the part of the directors of the Krakow Center, since it would disturb the present research projects being conducted there. The Krakow Center is well equipped as far as the electronic field is concerned. The equipment was constructed in the Center's own laboratory, and it also has a well-equipped plant for the construction of all the accessory parts.

11. It does not appear that the Krakow Center is in direct contact with the Dubna Institute of Nuclear Research. Chinese scientists and technologists have not visited this center for some time.

12. Following is a list of some of the Polish scientists who are presently working at the Krakow Center:

a. Sawicki (fnu), Multichannel time analyzers;

b. Ryszard Bayer, multichannel amplitude analyzer;

c. Hoffman (fnu), magnetic matric memory;

d. Stefan Woytowicz, fast pulse technic, fast multichannel amplitude analyzer;

e. Starzynski (fnu), automatic inspection of the traces in the film;

f. Burzynski (fnu), current stabilizers;

g. Leszczynski (fnu), voltage stabilizers for Van de Graf;

h. Keller (fnu), radiation detectors;

i. Katkiewicz (fnu), radiation detectors;

j. Glowacki (fnu), synchroscope for scintilator pulses.

Polish Electronic Research in General

13. Polish electronic research centers work under serious handicaps which are principally caused by the lack of a normal source of supply of needed electronic components. These materials are not produced in Poland but must be imported entirely from other countries. They are received from the USSR

after prolonged delays, and they cannot be imported from the West because of the shortage of foreign currency. Electronic calculators are not being built in Poland. There is a calculation center in Warsaw which is equipped with a Soviet calculator, and all problems whose solutions require the use of a calculator must be handled in the Warsaw center.

14. The entire program of the Polish research centers fits into the general program established by the scientific commissions of the Eastern European countries, and, for all practical purposes, it is subject to Soviet control. The cooperation between the Polish centers and the USSR is presently limited to the sending of Polish technicians to the Dubna Institute of Nuclear Research for training and briefing and to importing Soviet electronic and nuclear equipment into Poland.